

Chapter 2

Definitions and Terminology

Throughout the Guidebook are technical and other terms and concepts which will be defined or explained in this Chapter; these have a specific meaning in the Guidebook. Other terms are explained for the purpose of consistent application and clarity in the Guidebook.

Definitions and Terminology

1. Acceptable Separation Distance (ASD) is the actual distance beyond which the explosion or combustion effect of a hazard is not likely to unnecessarily expose individuals to injury or buildings to damage from blast overpressure or thermal radiation flux levels in excess of the standards cited in 24 CFR Part 51 Subpart C (specifically 51.203) as established by the Department.

2. Blast Barrier is a barrier of substantial construction designed to contain the blast force expected to emanate from a specific hazard source and should be constructed as close to the hazard source as practical. Barriers may be incorporated into the project to permit a lesser separation distance between the site and potential hazard but its location and design must be determined specifically on a case-by-case basis. The design and location of barriers are based on an analysis of the site, the location of potential hazard, and the type of hazard.

3. Blast Overpressure is the pressure above normal atmospheric pressure on the surrounding medium caused by an explosion. The pressure is measured in pounds per square inch (psi).

4. Bleve is a Boiling Liquid Expanding Vapor Explosion. (All explosions are not BLEVEs; however, all BLEVEs involve an explosion.)

5. Buried Tank (or underground tank) is one where the entire tank is covered. Underground storage tanks are not considered to be a hazard under 24 CFR Part 51C or the Guidebook.

6. Container, used interchangeably with the word tank or storage tank, is a tank or vessel used to store, transport, or process petroleum, petrochemicals, other chemicals or flammable products (some toxic) in a liquefied or gaseous state. (For a more detailed discussion of containers, see Chapter 4.) The design and construction requirements for containers (tanks or vessels) are established by the industry, e.g. NFPA, the American Petroleum Institute, and others.

7. Dike is the perimeter of an impounding space forming a barrier to prevent liquid from flowing in an unintended direction.

8. Fire Width, the diameter of a fireball.

9. Flash Point is the lowest temperature at which a liquid gives off sufficient vapor to form an ignitable mixture with the air at the surface of the liquid.

10. Ground Flash occurs as the mass of burning, expanding vapor is partially confined and channeled along the ground. It can cover an area hundreds of feet in diameter and cause massive burns to people in the ground flash area.

11. Hazard includes any stationary operation where an above ground container (or containers) stores, handles or processes chemicals or petroleum products of an explosive or flammable nature, located within 1 mile of a HUD assisted project site.

12. Hazardous Gas is a flammable or combustible chemical or petroleum product which exists as a gas at normal atmospheric pressure and room temperature. Hazardous gases may be stored, processed or transported in a gaseous state in an unpressurized container or in a liquefied state in a pressurized or temperature controlled container.

13. Hazardous Liquid is a flammable or combustible chemical or petroleum product which exists as a liquid at normal atmospheric pressure and room temperature.

14. Hazardous Products (or substances) are those flammable and combustible gases and liquids which upon accidental release and ignition or explosion pose a threat to public safety or damage property.

15. Liquefied Natural Gas (LNG) is a liquid form of natural gas (basically methane) which is maintained in liquefied form by temperature control at about minus 260° F at atmospheric pressure and kept in this form by utilizing properly insulated vessels.

16. Liquefied Petroleum Gas (LPG) is a compressed liquefied gas consisting primarily of propane, although it is often a mixture of propane, butane, and other hydrocarbons. It is stored in pressurized containers.

17. Loading facility is a facility where tank trucks, railroad tank cars, tanker barges, or seagoing tankers load and unload hazardous products.

18. Measurements:

- **Parts per million (ppm)** is a measure of concentrations.
- **Pounds per square inch (psi)** is a measure of pressure.
- **Barrel (one)** = 42 gallons.

19. Process Vessel is a tank, vat, kettle, autoclave reactor or other container used to mix, blend, heat or otherwise modify hazardous products.

20. Thermal Radiation, the intense heat emanating in waves, from combustion.

21. Thermal Radiation Flux Levels is the degree of heat expressed.

22. TNT Equivalent is the mass of TNT which would produce an explosion of equal magnitude as a unit mass of the hazardous substance under pressure.



Storage facilities in an urban redevelopment area. Note the 200,000 gallon natural gas holder with floating top at the center. Tanks considered hazardous under 24 CFR Part 51C are also located on the site.